ANNEX NUMBER 6
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER
AND MICROSOFT CORPORATION
UNDER SPACE ACT UMBRELLA AGREEMENT
SAA-AD-18-26048, DATED FEBRUARY 6, 2018

ARTICLE 1. PURPOSE

This Annex is subject to the terms of the Umbrella Agreement referenced above and reflects the Parties' intent to collaborate and exchange technology expertise through discussion forums and STEM events with the Office of STEM Engagement and the Human Interface Branch within the Avionics Division, both at NASA Johnson Space Center. The Human Interface Branch is responsible for the design, development, test, and management of systems that enable human interaction with spaceflight vehicles. Specifically, the branch provides technical expertise in audio, displays and controls, motion and still imagery, lighting and wearable technology systems. The branch actively collaborates with academia, industry, the Human Health and Performance Directorate, the Flight Operations Directorate, NASA Centers and programs to provide technical expertise, government furnished equipment, and advanced research for existing and future human spaceflight missions.

The Human Interface Branch's Informatics (xINFO) team applies modern human interface technologies to the development of advanced space suits used on the International Space Station (ISS), future cis-lunar missions, and planetary surface exploration. The xINFO system is comprised of avionics that are not safety-critical, but increase crew autonomy, efficiency, and effectiveness during extravehicular activities (EVA). The team develops and adapts technologies to display procedures, timelines, and video, record audio, video, telemetry, and field notes, and interact with EVA tools. Heads-up display (HUD) technologies are key enablers for achieving these capabilities, and the Microsoft HoloLens used as an analog in the development process.

The Office of STEM Engagement with technical support and guidance from the xINFO team conducts a STEM event called NASA SUITS (Spacesuit User Interface Technologies for Students) Design Challenge, held annually. NASA SUITS is a mission-driven project in which college student teams design and create spacesuit informatics using the Microsoft HoloLens platform. The student-designed visual display and audio environments present information to aid astronaut subjects in performing simulated EVA tasks. After developing their environment, up to 12 selected student teams travel to the NASA Johnson Space Center to test their prototypes in an on-site facility. Designs, results, and data from SUITS are used to inform future designs for an augmented reality displays on NASA's next-generation spacesuits.

NASA SUITS is comprised of a five (5) day on-site visit with the following events:

1. User Evaluations: Three (3) user sessions for user interface (UI) evaluations per team (30 total) to evaluate the HoloLens UI design.
2. Poster Session: An opportunity for all 10 teams to showcase their UI designs via poster presentations on site at JSC.
3. Exit Pitches: The student teams will give brief exit presentations regarding their design and lessons learned during evaluations amongst a panel of expert judges.

ARTICLE 2. RESPONSIBILITIES

NASA will use reasonable efforts to:

1. Manage and coordinate the technical design and implementation of the NASA SUITS Activity, including, but not limited to, providing challenge-specific statements, program management, program coordinators, volunteers, technical expertise, speakers, and official escorts to implement the on-site activities at NASA JSC laboratory facilities.

2. Collaborate and hold discussions with Microsoft on the research, design, development and implementation of augmented reality, display platforms, and other related technical topics.

3. Collaborate with Microsoft to secure facilities for off-site planning, mentorship opportunities, and design development during the test week.

4. Coordinate with Microsoft on any promotional opportunity, such as press releases, physical, virtual and/or interactive events (i.e. hackathons, etc.), social media, feature stories (online or print) and potential blogs or co-authored stories as well as any product development, such as bookmarks or flyers, related to NASA SUITS events. Coordination will include recruiting and engaging higher education students in the NASA SUITS activity through the leveraging of institutional relationships of both partners. NASA will be responsible for the final selection of teams.

5. Work with Microsoft to determine and provide mutually beneficial metrics.

Microsoft will use reasonable efforts to:

1. Provide speakers, mentors, and volunteers to support the NASA SUITS activity to include exchanging technology expertise via discussion forums in physical, virtual, and or interactive settings.

2. Collaborate and hold discussions with NASA on the research, design, development, and implementation of augmented reality, display platforms, and other related technical topics.

3. Collaborate with the NASA JSC Office of STEM Engagement to secure facilities for off-site planning, mentorship opportunities, and design development during the test week. Microsoft will be financially responsible for the cost of acquiring an off-site location, if any.

4. Coordinate with NASA on any promotional opportunity, such as press releases, physical, virtual, andor interactive events (i.e. hackathons, etc.), social media, feature stories (online or print) and potential blogs or co-authored stories as well as any product development, such as bookmarks or flyers, related to NASA SUITS events.

5. Work with NASA to determine and provide mutually beneficial metrics.

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

NASA host initial kick-off technical planning meeting	By October 2019
Conduct Technical Planning Meetings for NASA SUITS Design Challenge	Bi-weekly until the end of the agreement
Work together to host Microsoft/NASA SUITS Hack-a-thon events	Beginning as early as October 2019 through the end of this agreement
NASA conduct SUITS Design Challenge Event	Beginning as early as October 2019 through the end of this agreement
NASA host bi-annual Technology Lessons Learned Meeting	Around June and December of 2020 and 2021
Both parties finalize and document metrics of each event.	No later than 15 days after the event

ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement

are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, (31 U.S.C. § 1341).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period 60 days.

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or three years from the Effective Date, whichever comes first unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Lyndon B. Johnson Space Center
Chris P. Hansen
Manager, Extravehicular Activity
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Technical Points of Contact

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ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER

BY: _____
Deborah A. Conder
Director, External Relations Office

DATE: 12-18-19

MICROSOFT CORPORATION

BY: Gregory M. Myers
Gregory M. Myers
Vice President, Federal Government

DATE: 12/09/2019